

Type in the U. S. National Herbarium, No. 1857260, collected at Jericó, Department of Antioquia, Colombia, December 1940, by Brothers Daniel and Tomás (no. 3501).

TROPICAL AMERICA

- Begonia patula* Haw. Pl. Succ. Suppl. 100. 1819; in Walp. Repert. Bot. Syst. 2: 215. 1843.
Begonia pauciflora Lindl. in Bot. Reg. 6: pl. 471. 1820.
Begonia obliqua Vell. Fl. Flum. Icones 10: pl. 48. 1827, not L. 1753.
Begonia populifolia sensu Liebm. in Kjoeb. Vidensk. Meddel. 1852: 16. 1853, not Schott, 1827.
Begonia towarensis Kl. Abh. Akad. Wiss. Berlin 1854: 31. 1855.
Begonia moritziana Kl. Abh. Akad. Wiss. Berlin 1854: 31. 1855.
Begonia pohliana Kl. Abh. Akad. Wiss. Berlin 1854: 33. 1855.
Begonia malvacea Kl. Abh. Akad. Wiss. Berlin 1854: 33. 1855.
Begonia parvifolia Kl. Abh. Akad. Wiss. Berlin 1854: 33. 1855, not Schott, 1827.
Begonia brasiliensis Kl. Abh. Akad. Wiss. Berlin 1854: 34. 1855.

Begonia macroptera Kl. Abh. Akad. Wiss. Berlin 1854: 34. 1855.

Begonia elata Kl. Abh. Akad. Wiss. Berlin 1854: 35. 1855.

Begonia uliginosa Kl. Abh. Akad. Wiss. Berlin 1854: 35. 1855.

In the course of determining a series of Brazilian begonias from the Instituto Miguel Lillo, we have been faced with the problem of distinguishing the numerous species proposed by Klotsch in the vicinity of his *B. towarensis*. The variation in single plants is so great that we feel convinced the names listed above represent merely forms or at the most varieties of a single species. At the same time we find the name *B. towarensis*, which we had been using for this species covering practically all tropical America, is far antedated by *B. patula* Haworth.

Begonia patula appears to be one of the very few species that has arisen in eastern Brazil and then spread far beyond. Its origin is attested by such close relatives as *B. setosa*, *vellerea*, and *subvillosa* in Brazil and their complete absence elsewhere.

ENTOMOLOGY.—Notes on *Brontispa* in Micronesia (Coleoptera, Chrysomelidae).¹

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Publications on injury to coconut palms by the leaf-bud infesting beetles of the genus *Brontispa* (Hispinæ) record the pests under various names, some of them apparently misapplied. Although inaccuracy of identification may not influence choice of controls to be suggested, it obscures the larger problems: the questions of source of each infestation, of routes of dispersal into previously unoccupied islands, and of varietal differentiation under isolation. There is also the great question: What are the basic or natural specific units as opposed to the arbitrary concepts deduced by taxonomists from their fragmentary data?

Species of *Brontispa* and closely similar genera are recorded from the great area of the Indian and Pacific Oceans from Mauritius to the Marshall Islands, while the coconut has attained a pantropic coastal distribution. Since the prehuman home of the coconut is still hypothetical, we can only conjecture if *Brontispa* evolved upon an-

cestral coconut or if in its dispersal the coconut entered habitats of other palms infested by *Brontispa*, which found the new host better suited to them than their former host plant. The latter is probably true. Human dispersal of both host and pest in the Pacific must have occurred during the thousand years, perhaps much longer, in which canoes were seeking new islands for occupation (Buck, 1938), but this dispersal is now vastly accelerated.

Ancient speciation and recent differentiation of isolated colonies offer tempting themes for speculation and for conflicting concepts of specific or generic status and relationship. Prehuman wind and wave waif-dispersal may have produced isolated species, human transportation may have established divergent colonies, and modern commerce may so mingle the less differentiated island populations as to obliterate their growing peculiarities through interbreeding. If enough samples representing existing infestations could be compared, something might be guessed of this unknown history, but the

¹ Received May 8, 1950.

conclusions would probably vary with the personally held theories of different observers. Definite and trustworthy details and samples under correctly applied names are needed for repeated recomparisons. It seems doubtful if a satisfactory solution could be found even if the *Brontispa* now in all public and private collections were available for study in one place.

Excellent samples from Micronesia supplement a few old samples from the Solomons, Celebes, Java, and a few other islands; but it seems doubtful if taxonomic identifications which will be acceptable to our successors may be possible until far more complete field work provides vastly more evidence. Collectors usually preserve samples under one of two extreme conditions: (1) Most frequently, single specimens that have strayed or fallen from their unobserved ecological niches and which merely arouse curiosity by some obvious peculiarity; or (2) a population that attracts attention by its numbers, or by conspicuous injury to some host easily accessible to the observer. Inaccessibility of the crowns of wild palms prevents search for species still occupying their primordial homes.

Severe damage to young coconuts is chiefly responsible for the interest in and for the samples of *Brontispa*. Samples representing such attacks should be reidentified, but enough are not yet available to permit more than tentative opinions on specific distinctions and varietal affinities. Especially needed are more evidence and samples from the islands of the Papuan and Malayan regions. Specific distinctions and relationships may be regarded very differently by later students with better evidence.

More than a score of specific names are available, but the extensive synonymy indicated by Maulik, 1938, and by Lepesme, 1947, will probably be revised.

Good samples of three species from the former Japanese Mandate—the Marshall, Marianas, and Caroline Islands—prompt this note, one object of which is to correct a misidentification I made some 17 years ago for T. Yoshino, then at the Agricultural Experiment Station in the Palau Islands. One of his samples was of a metallic-blue species without source record but later

known to be from Korror, Palau; it seemed to agree exactly with the description of *B. chalybeipennis* (Zacher) from Ponape. The other, from Saipan, was obviously new, but as other samples were independently sent to Europe for description (*B. mariana* Spaeth, 1937, syn. *Planispa castaneipennis* Chujo, 1937), my notes reviewing the accumulated literature and samples were not published. Recent samples from both Ponape and Palau show two distinct metallic-blue species, but since Chujo, 1937, and Lepesme, 1947, cite both of these islands as habitat of *chalybeipennis* my unpublished error appears to have been independently duplicated. Esaki, 1940, mentioned the undescribed blue species from Palau, but no further reference to it has been found except a mention by Lange, 1950. Perhaps this blue species is another form, divergent in structure and color from but associable with the yellow Papuan complex that has been lumped under the name *B. longissima* (Gestro, 1885) by Maulik, 1938, and Lepesme, 1947. Its differences are such, however, that it is now given a distinctive name.

Brontispa yoshinoi, n. sp.

Planispa chalybeipennis (part, not Zacher) Chujo, 1937.

[*Planispa*] n. sp. Esaki, 1940.

Brontispa chalybeipennis (part, not Zacher) Lepesme, 1947.

Brontispa sp. Lange, 1950.

Brown below, black above, the elytral reflections intensely blue; interantennal process of male long and very narrow, not quite passing apex of first antennal joint, that of the female broader at base, tapering and extending beyond middle of first antennal joint, its apex narrowly rounded or truncate and its upper surface deeply sulcate in both sexes, the female showing the sulcus wider and deeper at base; clypeus a little broader than in *froggatti* but with similar dense, erect pubescence over the punctured surface; labrum strongly carinate at middle but without the midbasal tubercle, which is prominent, recurved, and conspicuous in *froggatti*; pronotum broader than in *froggatti*, widest at apparent anterior angles, the real anterior angles visible from above as small obtuse teeth near the sides of the head; the hind angles slightly produced as in

mariana, but not spinose as in *froggatti*; elytral apex brown, subtruncate, with costae extending from apical parts of first, third, seventh and ninth interstices becoming more prominent; the apical emargination between costae one and three narrower; the apices of costae three, seven, and nine more approximate than in *froggatti*.

Length: Male, 7-7.5; female 8.5-9 mm.

Type and 78 paratypes, U.S.N.M. no. 59899.

Type male and 23 paratypes, Korrör, May 1932, on coconut, T. Yoshino; 41 paratypes, Peleliu, August 1946, R. G. Oakley; 14 paratypes; Babelthuap, July 1946, R. G. Oakley, all in the Palau Islands (lat. 7° N., long. 135° E.). The source of the first specimens was believed to be Ponape, the type locality of *chalybeipennis*, but this error was later corrected by Mr. Yoshino who, in 1933, wrote the sample was from Korrör and that the species was also on Truk, Yap, and Ponape. No specimens from Truk and Yap are accessible, and recent samples from Ponape differ in structure.

This species is closely related to *B. mariana* Spaeth (= *castaneipennis* Chujo) in structure but differs, besides color, in its shorter, narrower interantennal process, narrower clypeus, narrower and more strongly costate elytral apices, and more slender aedeagus. In appearance it resembles *B. chalybeipennis* (Zacher), but in that species the interantennal process, the pronotum, the elytral apices, and the clypeus are different in shape and sculpture.

Brontispa chalybeipennis (Zacher)

Orycephala (*Xiphispa*?) *chalybeipennis* Zacher, 1913.

Brontispa (?) *chalybeipennis* Zacher, 1915.

Planispa chalybeipennis (Zacher) Chujo, 1937 (part).

Brontispa chalybeipennis (Zacher) Maulik, 1938; Lange, 1950.

Brontispa namorikia Maulik, 1946 (? synonym); Lange, 1950; Maulik 1950.

Brontispa chalybeipennis (Zacher) Lepesme, 1947 (part).

Recognition of this very distinct species has been more difficult because the sexual peculiarities in the frontal process as well as the broad and almost nonpubescent clypeus were not described. Nor were these mentioned by Maulik, 1946, in his

description of *namorikia*, which, in spite of recorded differences in proportions of antennae and pronotum, is probably conspecific. The interantennal process of the male reaches the apical third of the stout, first antennal joint and is truncate, slightly longer than wide with a deep fovea within its sharply raised upper margins, the lower margins extending beyond its dorsal width. The rather broad clypeus is slightly convex between the eyes, feebly concave between the antennae and also within the margins of the interantennal process; its surface microgranulate with a few remote setiferous punctures. In the female the interantennal process is narrower and shorter, not reaching the middle of the first antennal joint.

The material before me is excellently preserved and includes nearly 200 specimens from Ponape, Kusaie (300 miles east of Ponape), and 5 atolls of the Marshall Islands which lie some 600 to 800 miles east of Ponape. These atolls are Majuro, Likiep, Jaluit, Ailinglapalap and Kwajalein. Among them lies Namorik, the type locality of the name proposed by Maulik, 1946. Palau is wrongly cited as habitat by Chujo, 1937, and by Lepesme, 1947.

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